IBALINAE OF NIPPON (*HYM., CYNIPIDAE*)

By

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(With Plate I)

Through the courtesy of Dr. CHIHISA WATANABE I was able to examine the material of the Subfamily *Ibalinae* (FÖRSTER, 1869) of Japan and Saghalien in the collection of the Entomological Institute of the Hokkaidô Imperial University. The collection contained three species of which one is new to the fauna of Saghalien. On the other hand, while working at the Hikosan Biological Laboratory of the Kyûshû Imperial University, I have found in several occasions the occurrence of an *Ibalia* which may be regarded as new to science.

In the present paper, I give a list of the species of the Genus *Ibalia* (LATREILLE, 1802) of Nippon, a key to the species, and descriptions of the new species and of the male of *Ibalia japonica* MATSUMURA as well as some comparisons among the species.

I express hereby my sincere gratitude to Dr. CHIHISA WATANABE of the Hokkaidô Imperial University for the loan of the specimens, to Professor TEISO ESAKI of the Kyûshû Imperial University for his kindness rendered in the course of the present study and to Mr. HARUO FURUKAWA of the Tôkyô Imperial University for his assistance in obtaining the literature.

I. LIST OF THE SPECIES

1. ***Ibalia japonica*** MATSUMURA

Thous. Ins. Japan, Suppl., iv, p. 161, ♀, pl. 52, fig. 9, 1912.

Habitat: Hokkaidô and Honshû.

Specimens examined: 1 ♂, 13. vi. 1911, Mt. Moiwa near Sapporo, Hokkaidô, S. MATSUMURA leg.; 1 ♀, 5 ♂ ♂, 20. vi. 1912, Mt. Moiwa, S. MATSUMURA leg.; 1 ♀, Tôkyô, Honshû, S. HIRAYAMA leg., all of which are preserved in the collection of the Hokkaidô Imperial University. These are the type series of the species.

2. ***Ibalia takachihoi*** YASUMATSU (sp. nov.)

Habitat: Kyûshû.

Specimens examined: 1 ♂, 1. v. 1937, Mt. Hikosan, Buzen, Kyûshû, K.

YASUMATSU leg.; 1 ♂, 6. v. 1937; 1 ♂, 19. v. 1937; 1 ♂, 20. v. 1937, the same locality.

3. ***Ibalia picea*** MATSUMURA

Thous. Ins. Japan, Suppl., iv, p. 163, ♀, pl. 52, fig. 11, 1912.

Habitat: Saghalien.

Specimens examined: 1 ♀, 9. viii, Maoka, Saghalien, K. OGUMA leg.; 1 ♀, Saghalien, S. MATSUMURA leg. (MATSUMURA's type); 1 ♀, 25–27. vii. 1934, Tarandomari, Saghalien, C. WATANABE et T. INOUE leg., all of which are preserved in the collection of the Hokkaidô Imperial University.

4. ***Ibalia drewseni*** BORRIES

Ent. Meddl., iii, p. 57, ♀, 1891.

Habitat: Europe (Denmark, South Europe) and Saghalien.

Specimens examined: 1 ♀, 1. vii. 1932, Kashiho, Saghalien, H. KÔNO leg., preserved in the collection of the Hokkaidô Imperial University; 1 ♀, 13. v. 1926, Budapest, Hungary, Europe, T. ESAKI leg., preserved in the collection of the Kyûshû Imperial University.

This species is new to the fauna of Nippon (Saghalien).

II. KEY TO THE SPECIES

1. Temples, inner orbits of eyes, the sides of pronotum, scutellum (except a median, longitudinal, black line) as well as abdominal bands yellow or pale orange-yellow (Length of body: ♀ ca. 16 mm., ♂ ca. 18 mm.) ..... *Ibalia japonica* MATSUMURA

– Head and thorax almost entirely black, abdomen black or for the most part black 2

2. Body almost entirely black. Apical spur or tubercles of second tarsal segment of hind legs extending slightly beyond the apex of third segment (Length of body: ca. 12 mm.) 3

– Antennae (except the base and apex), tegulae, apex of femora of all legs, fore and mid-tibiae, tarsi of all legs as well as some oblique markings on the sides of abdomen somewhat orange-yellow. Outer margin of wings prominently darkened. Third antennal segment about twice as long as malar space. Apical spur of second tarsal segment of hind legs very long, extending to the middle portion of fourth segment (Length of body: ♀ ca. 15 mm., ♂ ca. 16 mm.) .... *Ibalia takachihoi* YASUMATSU

3. Body entirely black. Malar space as long as third antennal segment ... . *Ibalia picea* MATSUMURA

– Fore and mid-legs (except coxae), hind femora and the base of abdomen red. The sides of fifth and sixth abdominal tergites as well as entire sternites amber-coloured. Malar space slightly shorter than third antennal segment ..... *Ibalia drewseni* BORRIES

III. DESCRIPTION OF *IBALIA TAKACHIHOI*

Ibalia takachihoi sp. nov.

♂. Black, with the following portions orange-yellow or pale brownish-yellow: apical one-third of the third antennal segment, fourth to tenth antennal segments, apex of fore and mid-femora, anterior margin of mid-femora, fore and mid-tibiae, base of hind tibiae, and tarsi of all legs. Eleventh to fourteenth antennal segments brownish or brownish-black, basal two-thirds of third antennal segment brownish-black. Apical spurs of hind tibiae black. Base of mid- and hind femora pale yellowish. Tegulae ferruginous-black. Wings transparent, tinted with pale yellowish-orange colour, with nervures brownish-black except the basal paler portion. Wings with the outer margin somewhat darkened or tinted with pale black, fore wings also with a dark marking at the central portion.

Head, seen in front, very much wider than long and vertex almost straight. Inner margins of eyes distinctly diverging upwardly. Front almost flat or very slightly excavated between the insertions of antennae and fore ocellus. Head slightly wider than thorax. Head, seen in profile, with eyes narrower than temples which are very much developed, swollen out in postero-lateral directions and narrowed upwardly. Malar space wider than long. Third antennal segment about twice as long as malar space. Head, seen from above, transverse, with posterior margin very much incised. Postocellar line distinctly shorter than oculo-ocellar line. Ocelli put in a flattened triangle. Distance between anterior and posterior ocelli strikingly shorter than the distance between posterior ocelli and posterior margin of vertex. Relative length of the segments of antenna—I : II : III : IV : V : VI : VII : VIII : IX : X : XI : XII : XIII : XIV=18 : 5 : 20 : 17 : 16 : 15.5 : 15 : 14 : 12 : 11 : 10 : 9 : 7 : 9. Basal segment stout, broadened apically, second about as wide as long, a quarter the length of the third, about four times as long as broad at the apex and with a distinct excavation on the outer side near the apex. Fore wing: basal nervure receiving discoidal nervure at the middle. Pronotum basally elevated. Scutellum about as wide as long, somewhat parallel-sided, with postero-lateral protuberances. Metapleura without any triangular tubercles. Propodeum with three, distinct, longitudinal carinae. Abdomen strikingly compressed laterally.

Measurements

Length: Head+thorax ca. 7.5 mm. Antenna ca. 8.0 mm. Abdomen ca. 9.0 mm. Fore wing 12.0 mm. Hind wing 8.0 mm. Hind femur 3.0 mm. Hind tibia 6.1 mm. Hind basitarsus 3.5 mm.

Width: Head ca. 3.3 mm. Thorax ca. 3.1 mm.

♀. Very similar to the male. Abdominal sternites as well as markings on the sides of fourth, fifth and sixth tergites pale orange-yellow and somewhat transparent. Third antennal segment normal.

Measurements

Length: Head+thorax ca. 6.6 mm. Antenna ca. 7.6 mm. Abdomen ca. 9.0 mm. Fore wing 11.4 mm. Hind wing 7.0 mm. Hind femur 3.0 mm. Hind tibia 6.1 mm. Hind basitarsus 3.5 mm. Ovipositor ca. 12.0 mm.

Habitat: Kyûshû (Mt. Hikosan).

Host: Larva of *Tremex longicollis* KONOW.

Holotype: 1 ♂, 1. v. 1937, Mt. Hikosan, Buzen, Kyûshû, K. YASUMATSU leg., on the trunk of *Celtis japonica* at 650 m. in altitude.

Allotype: 1 ♀, 20. v. 1937, the same as above.

Paratypes: 1 ♂, 6. v. 1937; 1 ♂, 19. v. 1937, the same as above.

Holo- and allotypes are preserved in the Entomological Laboratory of the Kyûshû Imperial University, Fukuoka. Paratypes are preserved in the Hikosan Biological Laboratory of the same University, Hikosan.

The specific name of this beautiful Cynipid is respectfully dedicated to Baron NOBUMARO TAKACHIHO of the Hikosan Biological Laboratory.

Ibalia takachihoi YASUMATSU may be distinguished from *Ibalia picea*, *I. japonica* and *I. drewseni* by the following morphological characters:—

1. In *takachihoi*, *japonica* and *picea* the vertex between the ocelli and the inner orbits is slightly depressed and distinctly obliquely striated (In *takachihoi* the sculpture is very irregular, while in *japonica* it is very distinctly and regularly pronounced). In *drewseni* the vertex is almost flat, minutely punctured and very shining.
2. In *takachihoi* the inner margins of the eyes are distinctly converging below. In *japonica* and *drewseni* they are very slightly converging below, and in *picea* they are almost parallel to each other.
3. In *takachihoi* and *japonica* the malar space is broader than long and about half as long as the third antennal segment. In *drewseni* the malar space is longer than broad and slightly shorter than the third antennal segment, while in *picea* the former is longer than broad and about as long as the latter.

4. In *takachihoi* the sides of the pronotum are not shining and distinctly rugoso-striate with many fine longitudinal striae and punctures. In *japonica* they are almost transversely striated above and have no striation below where they are very shining and adorned with a few minute punctures. In *drewseni* they are shining and have very dense, small punctures. In *picea* they are very much shining and have small punctures.
5. In *takachihoi* and *japonica* the upper half of mesopleura has many, very fine, longitudinal striae and punctures, while it is almost smooth, impunctate and shining in *drewseni*. In *picea* it has some longitudinal striae and comparatively coarse punctures.
6. In *takachihoi* and *japonica* the scutellum is largely reticulate, while it is distinctly transversely striate in *drewseni* and *picea*.
7. In *takachihoi* the basal nervure of the fore wings is receiving the discoidal nervure at the middle, while it is receiving the latter near the anterior margin of the fore wings in *japonica*, *drewseni* and *picea*.
8. In *takachihoi* and *japonica* the apical spur of the second tarsal segment of the hind legs is very long, extending to the middle portion of the fourth tarsal segment, while it is extending slightly beyond the apex of the third segment in *drewseni* and *picea*.
9. In *takachihoi* and *japonica* the median longitudinal line of the sixth abdominal tergite (♀) is almost straight seen in profile, while it is very much curved in *drewseni* and *picea*.

IV. DESCRIPTION OF THE MALE OF *IBALIA JAPONICA*

Ibalia japonica MATSUMURA

♂. In structure very closely allied to *takachihoi* YASUMATSU. Brownish-black, with the following portions pale orange-yellow: apical half of antennal scapes, base of mandibles, temples, posterior margin of pronotum (interrupted in the middle), tegulae, the sides of scutellum, humeral angles, fore and mid-legs, fore and mid-coxae in front, apical half of hind coxae, hind trochanters, both extremities and underside of hind femora, two longitudinal lines of hind tibiae, hind tarsi, first abdominal tergite, apex of second to fourth tergites as well as entire sternites. Fifth and sixth antennal segments somewhat brownish. Apical spur of hind tibia brownish. A dark marking at the central portion of fore wings much more narrower than in *takachihoi*. Front and vertex very regularly and distinctly, longitudinally or obliquely striated. Relative length of the segments of antenna—I : II : III : IV : V : VI : VII : VIII : IX : X : XI : XII : XIII : XIV=25 : 8 : 24 : 21 : 19 : 18 : 16 : 15 : 14 : 12 : 11 : 10 : 9 : 10. Second segment about one-third the length of the third.

Third segment about three times as long as broad at the apex and with a distinct excavation on the outer side near the apex.

Measurements

Length: Head+thorax ca. 8.0 mm. Antenna ca. 9.2 mm. Abdomen ca. 9.5 mm. Fore wing 14.0 mm. Hind wing 9.0 mm. Hind femur 3.8 mm. Hind tibia 6.2 mm. Hind basitarsus 4.0 mm.

Width: Head ca. 4.0 mm. Thorax ca. 3.6 mm.

Allotype: 1 ♂, 20. vi. 1912, Mt. Moiwa near Sapporo, Hokkaidô, S. MATSUMURA leg., preserved in the Entomological Institute of the Hokkaidô Imperial University, Sapporo.

Explanation of Plate I.

Fig. 1. *Ibalia takachihoi* YASUMATSU (sp. nov.) (♂).
Fig. 2. Head of *takachihoi* (♂), seen in profile.
Fig. 3. Third antennal segment (right side) of *takachihoi* (♂), seen from above.
Fig. 4. Abdomen of *takachihoi* (♀), seen in profile.
Fig. 5. Abdomen of *takachihoi* (♂), seen in profile.
Fig. 6. Right hind tarsus of *takachihoi* (♂), seen from above.
Fig. 7. Abdomen of *japonica* (♀), seen in profile.
Fig. 8. Fore wing of *japonica* (♂).
Fig. 9. Apex of abdomen of *drewseni* (♀), seen in profile.
Fig. 10. Right hind tarsus of *drewseni* (♀), seen from above.
Fig. 11. Apex of abdomen of *picea* (♀), seen in profile.
Fig. 12. Fore wing of *picea* (♀).

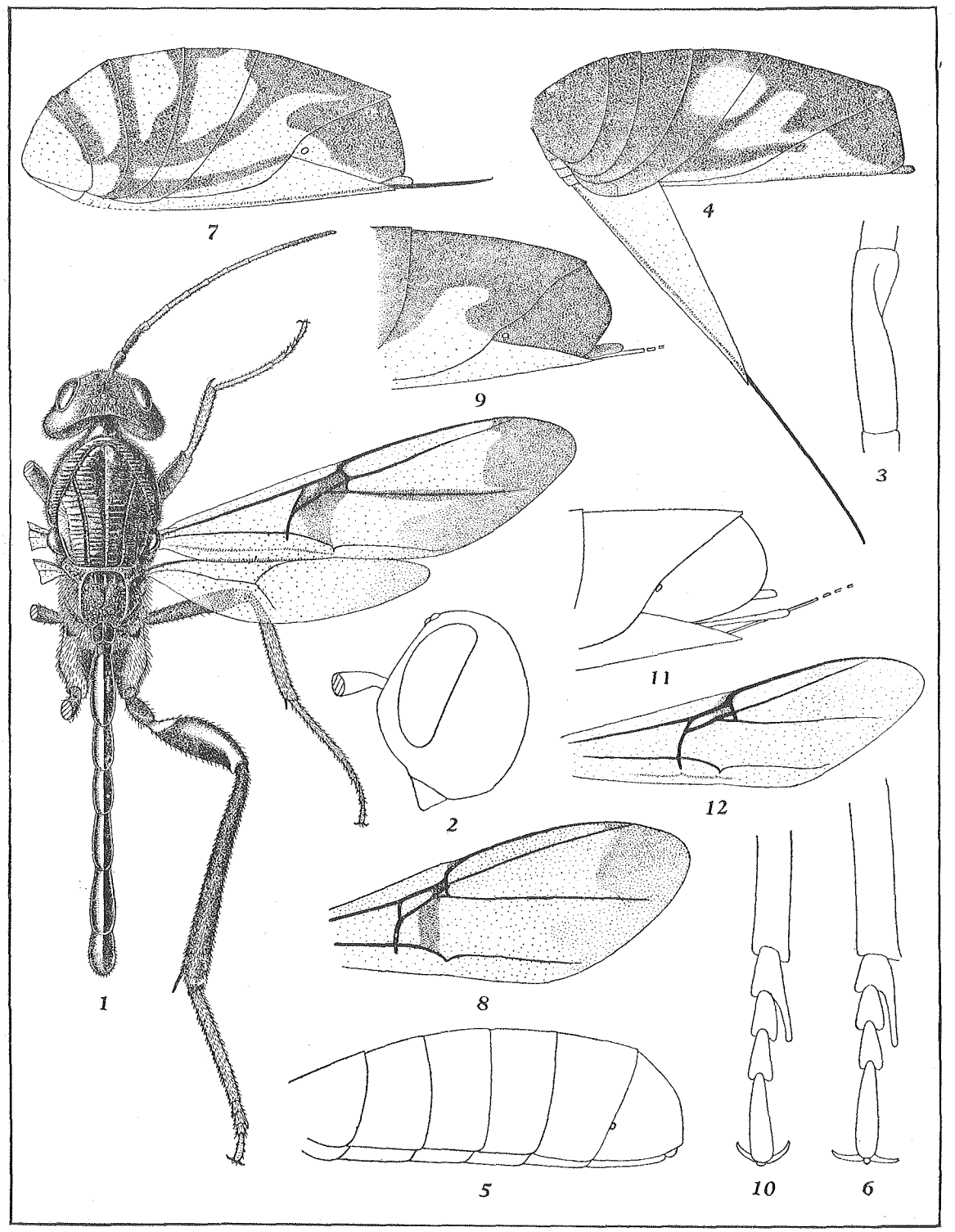
摘　　要

日本のヒラタフシバチ亞科

(英彦山昆蟲雜記—XIII)

私は渡邊千尙博士の御好意により、北海道帝國大學昆蟲學教室所藏の ヒラタフシバチ類 (*Ibalia*) の標本を研究する機會を得た。本邦よりこの屬のものは從來2種知られて居たのみであるが、上記教室には更に1未記錄種の標本が保存されて居た。一方私は九州帝國大學附屬彦山生物學研究所構內にて明かに新種と認むべき1種を發見した。これらの種名、和名及び產地を示せば次の如くである。

1. *Ibalia japonica* MATSUMURA　ヒラタフシバチ (松村)　北海道、本州
2. *Ibalia takachihoi* YASUMATSU (sp. nov.)　タカチホヒラタフシバチ (新稱)　九州
3. *Ibalia picea* MATSUMURA　クロヒラタフシバチ (松村)　樺太
4. *Ibalia drewseni* BORRIES　アカアシヒラタフシバチ (新稱)　樺太、歐洲



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